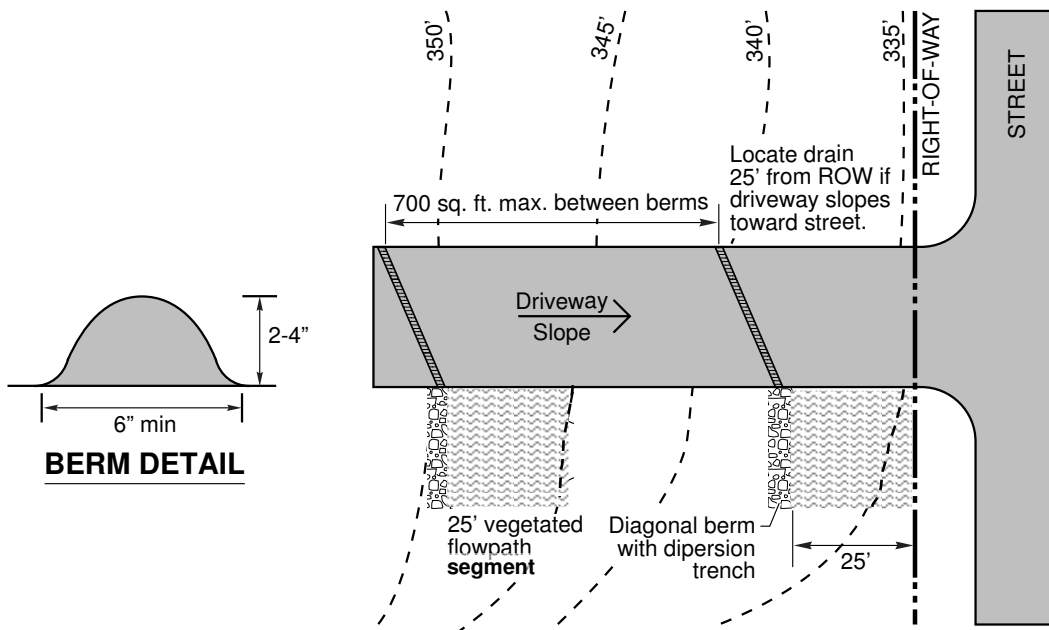
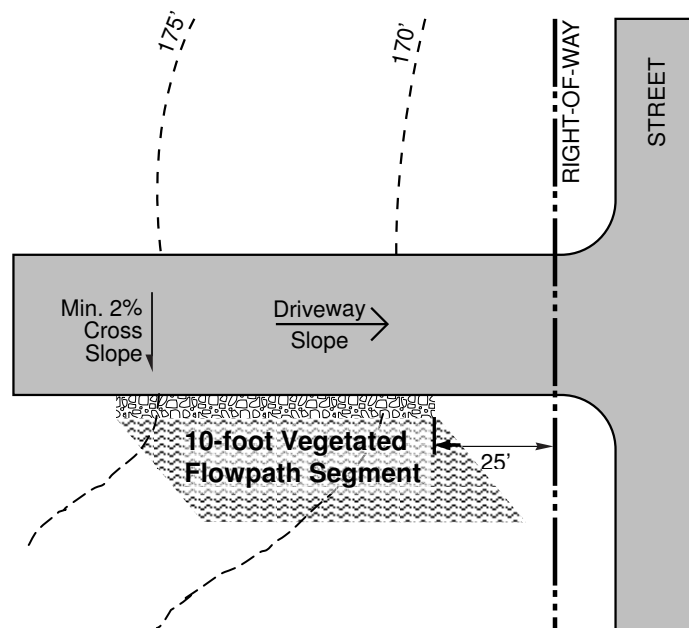


FIGURE C.2.4.D EXAMPLES OF BASIC DISPERSION FOR DRIVEWAYS

**PLAN**

Driveway Dispersion Trench
Driveway Slope Varies and Slopes Toward Street

**PLAN**

Sheet Flow Dispersion from a Driveway
Flat to Moderately Sloping Driveways

C.2.5 RAIN GARDEN

Rain gardens, also known as "**bioretention**," are excavated or otherwise formed depressions in the landscape that provide for storage, treatment, and infiltration of stormwater runoff. The soil in the depression is enhanced to promote infiltration and plant growth. Plants adapted to wet conditions are planted in the enhanced soil. Figure C.2.5.A (p. C-58) shows a plan view and section of a typical rain garden system.

Applicable Surfaces

Subject to the minimum design requirements and specifications in this section, rain gardens may be applied to any impervious surface such as a roof, driveway, parking area, road, or sidewalk, and to any non-native pervious surface such as a lawn, landscaped area, or pasture.

Design Considerations

Rain gardens may overflow occasionally in large storm events or more frequently if located in very poorly drained soils or areas with very high water tables. In very well-drained soils, water may drain too quickly to support water loving plants and ponding may be of short duration. Conditioning the soil in the rain garden with abundant compost will enhance the growth of plants and help the soil to more readily admit water.

Operation and Maintenance

See Section C.2.5.3 (p. C-60).

C.2.5.1 MINIMUM DESIGN REQUIREMENTS

All of the following requirements must be met in order for a rain garden to be applicable to a **target impervious surface** or **new pervious surface**:

1. A **minimum water storage volume** equivalent to 3 inches (0.25 feet) of runoff depth from the impervious surface area served is required. In other words, the volume in cubic feet shall equal 0.25 times the square footage of the impervious surface area served (see example calculation in Section C.2.5.2 below). For rain gardens serving **new pervious surface**, a minimum water storage volume equivalent to 0.5 inches (0.04 feet) of runoff depth is required.
2. The **water storage area**, containing the minimum required storage volume, shall be 12 inches deep at overflow and have side slopes no steeper than 3 horizontal to 1 vertical. The overflow point of the water storage area shall be at least 6 inches below any adjacent pavement area. The overflow point must be situated so that overflow does not cause erosion damage or unplanned inundation.
3. If a **containment berm** is used to form the water storage area, the berm must be at least 2 feet wide and 6 inches above the 12 inches of water depth. A **catch basin** or **rock pad** must be provided to release water when the pond's water level exceeds the 12 inches of water depth. The catch basin may discharge to the local drainage system or other acceptable discharge location via a 4-inch rigid pipe. The rock pad may be used with or without a constructed drainage system downstream. If a rock pad is used, it must be composed of crushed rock, 6-inches deep and 2 feet wide (perpendicular to flow) and must extend at least 4 feet or beyond the containment berm, whichever is greater. The rock pad must be situated so that overflow does not cause erosion damage or unplanned inundation.
4. **Amended soil** consisting of minimum of 4 inches of compost tilled into the upper 12 inches of soil or 12 inches of imported sand/compost blend having 8 to 13% organic material by dry weight is required in the rain garden. Tilling and amending to greater depth is desirable.
5. **Water tolerant plants** such as those in Table C.2.5.A shall be planted in the pond bottom. Plants native to Western Washington are preferred.